

291 Midterm Review Answer Key

1. 6
2. -36
3. $3x^3 - 19x^2 + 52x$
4. $\{4\}$
5. $g = \frac{-2(s-vt)}{t^2}$
6. 32
7. $b = \frac{A}{2ng + 4r}$
8. $\{n: n > 0\}$
9. additive inv.: $-\frac{4}{5}$
mult inv.: $\frac{5}{4}$
10. add. inv.: 6
mult inv.: $-\frac{1}{6}$
11. $\{x: -3 \leq x \leq 2\}$
12. $\{m: m < -1 \text{ or } m > 6\}$
13. 13, 15, 17
14. yes
15. D: $\mathbb{R} \setminus \{2\}$
R: $\mathbb{R} \setminus \{0\}$
16. D: $-1 \leq x \leq 1$
R: $0 \leq f(x) \leq 1$
17. $g(-3) = 8$
 $g(7) = 48$
18. (a) $y = -\frac{5}{4}x - \frac{1}{2}$
(b) $m = -\frac{5}{4}$ (c) $m = \frac{4}{5}$
19. (a) $4x + y = 5$
(b) $x + 3y = -3$
20. (a) $(-1, 2)$
(b) $(1, -2)$
(c) $(2, -1)$
21. $K = -3$
22. $56 + 74$
23. rate of boat = 4 mph
rate of current = 2 mph
24. Corner Pts.
 $(0, 5)$ $(3, 2)$ $(9, 0)$ $(3, 0)$
Max = 10 min = 0
25. 10
26. $(4, 0) - (4)$
27. $34u^2$
28. $\frac{d^3}{4a}$
29. $2ab^3c^2 \sqrt[5]{2ac^3}$
30. $(6n-5)^2$
31. $(ab+c)(a^2b^2-abc+c^2)$
32. $(4+7bc^2)(4-7bc^2)$
33. $(4x-9y)(x+2y)$
34. $(x+y)(x-y-3)$
35. $\{\pm 5i\}$
36. $x^2 - 6x - 2 + \frac{1}{3x-1}$

37. $\frac{15+5\sqrt{3}}{6}$

49. 20N 12D 6Q

38. $x^{\frac{7}{10}} = \sqrt[10]{x^7}$

39. $\frac{-13+11i}{29}$

40. 5^{2n-8}

41. 4

42. $4i\sqrt{2}$

43. $-4\sqrt{3}$

44. $6ab^2i\sqrt{a}$

45. -16

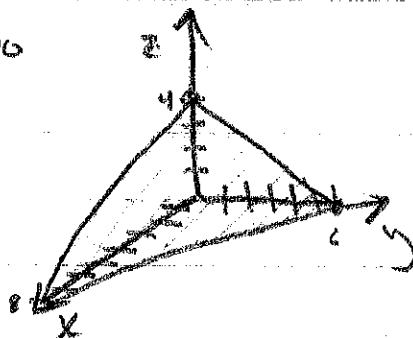
46. Do Not Do

47. Intercepts

$(0, 0, 4)$

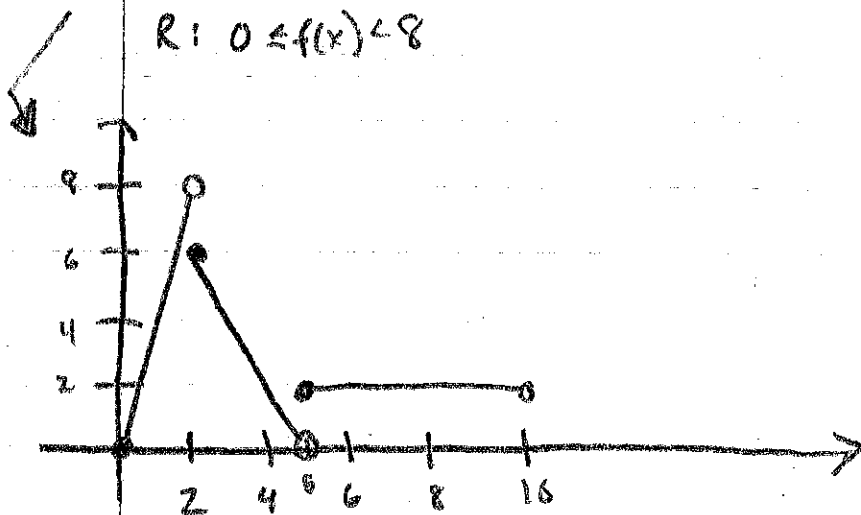
$(0, 6, 0)$

$(8, 0, 0)$



48. D: $0 \leq x < 10$

R: $0 \leq f(x) < 8$



50. A $(0, 0, 0)$

C $(-6, 4, 0)$

D $(-6, 0, 0)$

E $(-6, 0, -3)$

F $(0, 4, -3)$

G $(0, 4, 0)$

H $(0, 0, -3)$